REMARKS

Claims 1-9, 11-16 and 20-34 are pending in the application. In the Office Action of December 16, 2008, claims 1-9, 11-16, and 20-34 stand rejected. Claims 1, 20, 33 and 34 have been amended. New claims 49 and 50 have been added. Support for the amendments are found in the Specification from page 8, line 19 to line 25 and page 8, line 26 to page 9, line13. Support for the new claims 49 and 50 are found throughout the Specification and for example on page 8, lines 17-20. No new matter has been amended. The new claims do not require any additional searches by the Examiner.

The Office Action rejected claims 1-9, 11-16 and 20-34 under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. The Office Action stated that the claims contain subject matter that was not described in the Specification in such a way as to reasonably convey to one skilled in the art that the inventor at the time of filing had possession of the claimed invention. The Office Action stated that claims 1 and 20 refer to removing all or substantially all of the liquid present and that this is not supported by the original specification in the event liquids other than "alcohol" are intended for inclusion within the scope of the term "the liquid" now used in the claims.

Applicants assert that this rejection is moot in light of the amendments to claims 1 and 20. Applicants have amended claim 1 to include a liquid that comprises alcohol and that venting the pressure removes all or substantially all of this liquid. Claim 20 has been amended to recite that all or substantially all of any liquid present in the proteinaceous product is removed. Support for these amendments is found in the Specification, on page 10 lines 1-5.

The Office Action rejected claims 1-9, 11-16 and 20-34 under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action stated that in claims 1 and 20, "the liquid" lacks antecedent basis and that in claim 1 it is not clear what the percentage of alcohol is based on. The Office Action also stated that claim 34 is confusing in that it is not clear if the proteinaceous product must contain alcohol to begin with.

Applicants assert all of the issues regarding rejections based on 35 U.S.C. 112, second paragraph have been addressed with the claim amendments to claims 1, 20, and 34. Applicants have provided the antecedent basis for the liquid in claim 1 and clarified that the weight percentage of alcohol is based on the mixture. Claim 20 has been amended to indicate that all or substantially all of any liquid is removed from the proteinaceous product. Claim 34 was amended to recite that the mixture of claim 20 includes alcohol and all or substantially all of this alcohol is removed from the proteinaceous product prior to forming the animal feed.

In light of these claim amendments, Applicants request the removal of rejections based on 35 U.S.C 112, first and second paragraph.

The Office Action rejected claims 20-26 under 35 U.S.C. 102(b) as being anticipated by JP 6344848 (JP 848). The Office Action stated that JP 848 discloses a process wherein a proteinaceous material is blended with a reducing agent and then treating the mixture at a temperature of above 90°C and a pressure above 10psig wherein the product is extruded as a dried form. The Office Action concluded that the treatment in JP 848 is similar to the instant invention and that the resulting proteinaceous material would have increased solubility and the same color.

Applicants respectfully disagree. Applicants have amended claim 20 to recite that the processing is done in an autoclave. Support for this amendment is found in the Specification from page 8, line 26 to page 9, line 13. Applicants assert that the highly expanded proteinaceous product of JP 848 is different than the product of the present invention and that the proteinaceous product of the present invention is not anticipated by the product of the JP 848. As the Examiner stated, the product of JP 848 is extruded as a dried form. Extrusion results in a highly expanded product. This is demonstated in the "Application Example 1" of the JP 848 wherein the extruded product has a degree of expansion of 2.0. In extrusion, compressive and shear forces are applied to the material as it passes through a die. Thus, an extruder is an open system. Because of these forces, when the product emerges from the die, it expands significantly.

In contrast, the method of the present invention is conducted in an autoclave. An autoclave, as defined in Wikipedia, is "an industrial machine in which elevated temperature and pressure are used in processing materials." (Attached hereto as Exhibit A). An autoclave is a closed system in which a material is exposed to high temperature and pressure but not to the considerable shear forces that occur when a material passes through a die. Thus, the products made in an autoclave do not expand as the products in an extrusion process. Applicants assert that the methods and products of JP 848 are different than the methods and products of the present invention due to the use of extrusion and that these products would have different solubility and color characteristics.

In light of the claim amendments and the discussion above, Applicants respectfully request the removal of the rejection based on 35 U.S.C. 102(b).

The Office Action rejected claims 27-29 under 35 U.S.C. 103(a) as being unpatentable over JP 848. The Office Action alleged that the present claims call for the particular holding time and that this determination would have been well within the purview of a skilled artisan and absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time of the invention to have arrived at such time through routine experimental optimization.

Applicants assert that the method of independent claim 20 is not obvious over JP 848 for the reasons discussed above. Specifically, the extrusion process is a critical step in the method of JP 848 and the present invention does not include extrusion in the method because the method is conducted in an autoclave. Based on the teaching of JP 848, a person of ordinary skill in the art would not expect that a desirable proteinaceous product could be made without the extrusion process. Since independent claim 20, is not obvious over JP 848, Applicants submit that dependent claims 27-29 are also not obvious over JP 848.

The Office Action rejected claims 20-29 under 35 U.S.C. 103(a) as being unpatentable over JP 848 taken together with Johnsen et al. The Office Action alleged that if it is shown that the process of JP 848 would not necessarily result in enhanced solubility and preserved color characteristics, it should be noted that Johnsen et al teaches treatment of a proteinaceous material under similar high temperature and pressure wherein a sulfite agent is added in an amount that preserved the color of said proteinaceous material. The Office Action further alleged that it would have been obvious to one having ordinary skill in the art at the time of the invention to have determined an amount of sulfite agent in the process of JP 848 that would facilitate color retention and to have achieved same through routine experimental optimization.

Applicants respectfully disagree. As discussed above, the method of JP 848 includes extrusion of the mixture to obtain the highly-expanded proteinaceous product. The method of the present invention is conducted in an autoclave and thus, excludes the use of an extrusion process. Johnsen et al relates to cosmetic and hair care products. Johnsen et al merely adds sulfite to polypeptides to reduce the antigenicity of the collagen containing material. Johnsen et al discusses coloring elements or color precursors that are removed by contacting with an anion exchange material. There is no teaching, suggestion or motivation to a person of ordinary skill in the art that when the method of Johnsen et al. is combined with JP 848 that the method as described in the present invention would be expected. Applicants assert that the combination of JP 848 and Johnsen et al does not teach a person of ordinary skill in the art that the claimed method in the present invention would be successful.

The Office Action rejected claims 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over JP 848 alone or in view of Johnsen et al and further in view of Wright et al. The Office Action alleged that claim 33 further calls for a method of forming an animal feed by including the product of claim 20 with an animal feed component and that Wright et al. teaches incorporating soybean protein solubles in animal feed for the purpose of adding nutritional value and binding capability to the animal feed. The Office Action further alleged that it would have been obvious to one having ordinary skill in the art at the time of the invention to have incorporated the proteinaceous material of claim 20 in an animal feed composition for such reasons.

Applicants respectfully disagree. As discussed above, the method of claim 20 is not obvious over JP 848 and Johnsen et al. The Wright et al patent does not provide any teaching that obviates claim 20. Therefore, claims 33 and 34 that eventually depend from claim 20 are also not obvious over the cited art. Furthermore, as the Examiner stated, Wright et al teaches incorporating soybean protein solubles in animal feed. Wright et al does not teach or suggest the proteinaceous product with enhanced solubility and preserved color characteristics as in the present invention.

In light of the discussion above, Applicants respectfully request the withdrawal of the rejections under 35 U.S.C. 103(a).

It is believed that the claims as written are patentable, and a Notice of Allowance is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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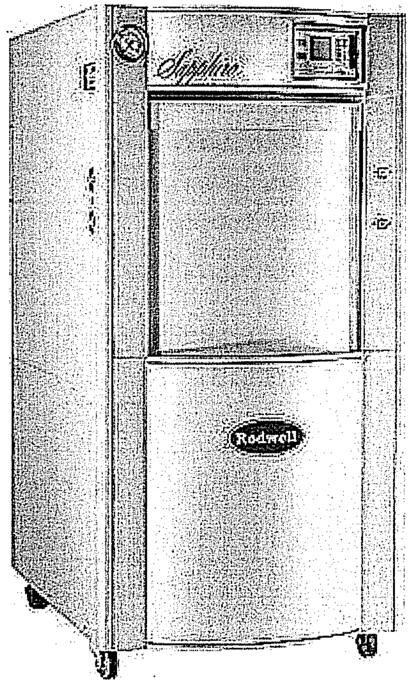
Autoclave (medical)

From Wikipedia, the free encyclopedia
(Redirected from Autoclave)

An **autoclave** is a pressurized device designed to heat aqueous solutions above their boiling point at normal atmospheric pressure to achieve sterilization. It was invented by Charles Chamberland in 1879.[1] The term **autoclave** is also used to describe an industrial machine in which elevated temperature and pressure are used in processing materials.

Autoclave



A modern front-loading autoclave

Uses	Sterilization
Inventor	Charles Chamberland
Related items	Waste autoclave

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Introduction

Under ordinary circumstances (at standard pressure), liquid water cannot be heated above approximately 100 °C/212 °F (99.99 °C at 101.325 kPa, 99.62 °C at 100 kPa) in an open vessel (see here for special situations). Further heating results in boiling, which is the transition from liquid to gas, but does not raise the temperature of the liquid water. However, when water is heated in a pressurized vessel such as an autoclave, it is possible to heat liquid water to a much higher temperature. As the container is heated the pressure rises due to the constant volume of the container (see the ideal gas law). The boiling point of the water is raised because the amount of energy needed to form steam against the higher pressure is increased.

Uses

Autoclaves are widely used in microbiology, medicine, sterilizing instruments for body piercing, veterinary science, dentistry, podiatry and metallurgy. The large carbon-fiber composite parts for the Boeing 787, such as wing and fuselage parts, are cured in large autoclaves.

Air removal

EXHIBIT
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